UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
BIN C15700
Seattle, WA 98115-0070

Refer to:
OHB1998-0008-FEC

June 12, 2002

Mr. Robert Willis
Portland District, Corps of Engineers
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation for the In-Lieu Treaty Fishing Sites (Celilo Village, Avery, North Shore, Lepage, Sundale, and Crow Butte) along the Columbia River Between Bonneville and McNary Dams.

Dear Mr. Willis:

Enclosed is the biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of the proposed In-Lieu Treaty Fishing Sites (Celilo Village, Avery, North Shore, Lepage, Sundale, and Crow Butte) along the Columbia River, between Bonneville and McNary Dams, and along the John Day River, in Sherman County, Oregon. In this Opinion, NMFS concludes that the proposed action is not likely to jeopardize the continued existence of ESA-listed Snake River steelhead (*Oncorhynchus mykiss*), Snake River spring/summer chinook salmon (*O. tshawytscha*), Snake River sockeye salmon (*O. nerka*), Snake River fall chinook salmon (*O. tshawytscha*), Upper Columbia River spring chinook salmon (*O. tshawytscha*), Middle Columbia River steelhead and Upper Columbia River steelhead (*O. mykiss*), or destroy or adversely modify designated critical habitats. As required by section 7 of the ESA, NMFS has included reasonable and prudent measures with nondiscretionary terms and conditions that NMFS believes are necessary to minimize the potential for incidental take associated with these actions.

This Opinion contains an analysis of the effects of the proposed action on designated critical habitat. Shortly before the issuance of this Opinion, however, a Federal court vacated the rule designating critical habitat for some the evolutionarily significant units (ESUs) considered in this

Opinion[1]. The analysis and conclusions regarding critical habitat remain informative for our application of the jeopardy standard, even though they no longer have independent legal significance for some of the ESUs considered. Also, if critical habitat is redesignated before this action is fully implemented, the analysis will be relevant when determining whether a reinitiation of consultation will be necessary at that time. For these reasons and the need for timely issuance of this Opinion, our critical habitat analysis has not been removed from this Opinion.

This Opinion also serves as consultation on essential fish habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulations (50 CFR part 600).

If you have any questions regarding this consultation, please contact Ben Meyer (503.230.5425) of my staff in the Oregon Habitat Branch.

Sincerely,

for Michael R Crouse

D. Robert Lohn
Regional Administrator

[1]Critical habitat for Snake River fall chinook salmon, Snake River spring/summer chinook salmon and Snake River Basin steelhead remains in effect, and is defined as the Columbia River itself and extends 300 feet on either side of the river in the area of the proposed actions.

# Endangered Species Act - Section 7 Consultation
&
Magnuson-Stevens Act
Essential Fish Habitat Consultation

# BIOLOGICAL OPINION

In-Lieu Treaty Fishing Access Sites
Celilio Village, Avery, North Shore, Lepage, Sundale and Crow Butte
John Day Pool and Dalles Pool,
Columbia River.

Agency: Army Corps of Engineers

Consultation Conducted By: National Marine Fisheries Service, Northwest Region

Date Issued: June 12, 2002

Issued by: for Michael R Crouse

D. Robert Lohn
Regional Administrator

**Refer to:** **OHB1998-0008-FEC**

## TABLE OF CONTENTS

# 1. ENDANGERED SPECIES ACT

## 1.1 Background

On April 19, 2002, the National Marine Fisheries Service (NMFS) received a request from the U.S. Army Corps of Engineers (COE) for Endangered Species Act (ESA) section 7 informal consultation for the construction of six in-lieu treaty fishing access sites along the Columbia River, in Benton and Klickitat Counties in Washington, and along the John Day River in Sherman County, Oregon. Based on the potential for take of ESA-listed salmonids, NMFS did not concur with the COE's "not likely to adversely affect" (NLAA) determination. In our May 9, 2002, letter to the COE, NMFS recommended formal consultation, indicated that there was sufficient information available to complete consultation, and stated our intent to proceed with formal consultation unless an objection was raised by the COE. Accordingly, NMFS has developed this biological opinion (Opinion) to address impacts associated with the proposed action. This Opinion is based on the information presented in the Public Notice issued by the COE for the project, the *Draft Phase Two Evaluation Report Technical Appendices: Columbia River Treaty Fishing Access Sites,* issued in 1995 by the COE, as well as numerous discussions with the COE.

In 1988, Congress passed Public Law 100-581, Review of Tribal Constitutions and Bylaws. Title IV of that law authorized the COE to acquire, develop, and transfer lands along the Columbia River in support of treaty fishing for four treaty tribes. The COE has phased construction of these sites primarily based on land acquisition timing, and input from the Tribes on site priority. NMFS consulted on several sites (OSB1998-0008) as part of this process in 1998. The actions proposed here are the final ones contemplated by the COE.

The COE has determined that Snake River Basin steelhead (*Oncorhynchus mykiss*), Snake River spring/summer chinook salmon (*O. tshawytscha*), Snake River sockeye salmon (*O. nerka*), Snake River fall chinook salmon (*O. tshawytscha*), Upper Columbia River spring chinook salmon (*O. tshawytscha*), Middle Columbia River steelhead and Upper Columbia River steelhead (*O. mykiss*) may occur within the project area. References on species biology and listing status, critical habitat designations and protective regulations may be found in Table 1.

This Opinion is based on the information presented in the EIS, the Public Notice issued by the COE for the project, the April 19, 2002, request for consultation, and subsequent correspondence to obtain additional information and clarity. The objective of this Opinion is to determine whether the actions to construct the access sites are likely to jeopardize the continued existence of the Snake River Basin steelhead, Snake River spring/summer chinook salmon, Snake River sockeye salmon, Snake River sall chinook salmon, Upper Columbia River spring chinook salmon, Middle Columbia River steelhead and Upper Columbia River steelhead, or destroy or adversely modify their critical habitat. This consultation is undertaken under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

This Opinion contains an analysis of the effects of the proposed action on designated critical habitat. Shortly before the issuance of this Opinion, however, a Federal court vacated the rule designating critical habitat for some the evolutionarily significant units (ESUs) considered in this Opinion[2]. The analysis and conclusions regarding critical habitat remain informative for our application of the jeopardy standard, even though they no longer have independent legal significance for some of the ESUs considered. Also, if critical habitat is redesignated before this action is fully implemented, the analysis will be relevant when determining whether a reinitiation of consultation will be necessary at that time. For these reasons and the need for timely issuance of this Opinion, our critical habitat analysis has not been removed from this Opinion.

**Table 1. References for Additional Background on Listing Status, Biological Information, and Critical Habitat Elements for the Listed and Proposed Species Addressed in this Opinion.**

| Species | Listing Status | Critical Habitat | Protective Regulations | Biological Information |
|---|---|---|---|---|
| Middle Columbia River steelhead | March 25, 1999; 64 FR 14517, Threatened | February 16, 2000; 65 FR 7764 | July 10, 2000; 65 FR 42422 | Busby *et al.* 1995; 1996 |
| Upper Columbia River steelhead | August 18, 1997; 62 FR 43937, Endangered | February 16, 2000; 65 FR 7764 | July 10, 2000; 65 FR 42422 | Busby *et al.* 1995; 1996 |
| Snake River Basin steelhead | August 18, 1997; 62 FR 43937, Threatened | February 16, 2000; 65 FR 7764 | July 10, 2000; 65 FR 42422 | Busby *et al.* 1995; 1996 |
| Snake River sockeye salmon | November 20, 1991; 56 FR 58619, Endangered | December 28, 1993; 58 FR 68543 | November 20, 1991; 56 FR 58619 | Waples *et al.* 1991a; Burgner 1991 |
| Upper Columbia River spring-run chinook salmon | March 24, 1999; 64 FR 14308, Endangered | February 16, 2000; 65 FR 7764 | July 10, 2000; 65 FR 42422 | Myers *et al.*1998; Healey 1991 |
| Snake River spring/summer-run chinook salmon | April 22, 1992; 57 FR 14653, Threatened | December 28, 1993; 58 FR 68543 | April 22, 1992; 57 FR 14653 | Matthews and Waples 1991; Healey 1991 |
| Snake River fall chinook salmon | April 22, 1992; 57 FR 14653, Threatened | December 28, 1993; 58 FR 68543 | April 22, 1992; 57 FR 14653 | Waples *et al.* 1991b; Healey 1991 |

[2]Critical habitat for Snake River fall chinook salmon, Snake River spring/summer chinook salmon and Snake River Basin steelhead remains in effect, and is defined as the Columbia River itself and extends 300 feet on either side of the river in the area of the proposed actions.

## 1.2 Proposed Action

The proposed action is the construction of boat ramps, docks and upland facilities at four sites along the Columbia River in Klickitat and Benton Counties in Washington, one site near the mouth of the John Day River in Sherman County, Oregon, and improvements to an upland site at Celilo Village in Wasco County, Oregon. The upland site improvement would have no effect to ESA-listed salmonids, and is not considered further in this consultation. The other five sites are Avery (located at Columbia River mile (RM) 197.4, North Shore (RM 215.9), Lepage (RM 217.8), Sundale (RM 236.2), and Crow Butte (RM 262).

At the Avery site, the COE would install three primitive campsites, replace an existing ramp with a 26.5-foot by 70.2-foot concrete plank ramp, replace an existing dock with a 62-foot by 6.7-foot dock, resurface an existing parking lot, and repair an existing groin. At the North Shore site, the COE would construct a new 26.5 by 117.9-foot precast concrete plank ramp adjacent to an existing public access ramp, a gravel parking lot and vault toilet, and replace an existing dock with a 106 by-6.7 foot dock. At the Lepage site, a new 26.5 by-124.6 foot precast concrete plank ramp and a 110 by-6.7 foot dock would be constructed adjacent to an existing public access ramp, and three campsites would be installed at the upper end of an existing parking lot. At the Sundale site, an existing boat dock and ramp would be replaced with a 119.6 by-26.5 foot precast concrete plank ramp and a 106 by-6.7 foot dock, and four campsites would be installed adjacent to an existing parking lot. At the Crow Butte site, a new 146 by-26.5 foot precast concrete plank boat ramp, a 140 by-6.7 foot dock, parking lot, access road and three campsites would be constructed. All docks would be constructed of concrete floats, with 12-inch diameter light tubes on 2.5-foot centers installed to provide light under the dock.

In addition, the COE proposes to conduct the following to minimize potential impacts resulting from installation of the boat ramps and docks and any associated upland facilities:

1. All in-water work shall be performed during the approved Oregon Department of Fish and Wildlife or Washington Department of Fish and Wildlife work window.
2. Flotation shall be entirely contained and enclosed in order to permanently prevent the breakup or loss of flotation material.
3. All pilings will be capped with bird-excluder devices.
4. All sites will be landscaped, and disturbed soils planted with a erosion control mix.

## 1.3 Biological Information and Critical Habitat

An action area is defined by NMFS regulations (50 CFR Part 402) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." Direct affects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the river where actions described in this Opinion lead to additional activities or affect ecological functions contributing to habitat degradation. For the purposes of this Opinion, the action area is the

Columbia and John Day Rivers at each site, and the adjacent riparian area within 1000 feet upstream and downstream from the project.

The Columbia and John Day Rivers serve as a migration area for all ESA-listed species under consideration in this Opinion. They may also serve as a feeding and rearing area for sub-yearling chinook salmon. Essential features of the area for the species are: (1) Substrate; (2) water quality; (3) water quantity; (4) water temperature; (5) water velocity; (6) cover/shelter; (7) food (juvenile only); (8) riparian vegetation; (9) space; and (10) safe passage conditions (50 CFR 226). The proposed action may affect the essential habitat features of water quality, substrate, riparian vegetation, food and safe passage conditions.

### 1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the: (1) Definition of the biological requirements and current status of the listed species, and (2) evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action, (2) the environmental baseline, and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize the listed species, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. NMFS must determine if habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat, it must identify any reasonable and prudent alternatives available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential biological elements necessary for juvenile and adult migration, and juvenile rearing of the listed species.

#### 1.4.1 Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to ESA-listed salmonids is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list the species for ESA protection and also considers new available data that is relevant to the determinations.

The relevant biological requirements are those necessary for ESA-listed salmon to survive and recover to naturally-reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environmental.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful migration and rearing in the project area. The current status of the listed species, based upon their risk of extinction, has not significantly improved since they were listed.

### 1.4.2 Environmental Baseline

The most recent evaluation of the environmental baseline for the Columbia River is part of the NMFS's Opinion for the Federal Columbia River Power System (FCRPS) issued in December 2000. This Opinion assessed the entire Columbia River system below Chief Joseph Dam, and downstream to the farthest point (the Columbia River estuary and nearshore ocean environment) at which ESA-listed salmonids are influenced. A detailed evaluation of the environmental baseline of the Columbia River basin can be found in the FCRPS Opinion (NMFS 2000).

The quality and quantity of freshwater habitats in much of the Columbia River basin have declined dramatically in the last 150 years. Forestry, farming, grazing, road construction, hydrosystem development, mining, and urbanization have radically changed the historical habitat conditions of the basin. Depending on the species, they spend from a few days to one or two years in the Columbia River and its estuary before migrating out to the ocean, and another one to four years in the ocean before returning as adults to spawn in their natal streams.

Water quality in streams throughout the Columbia River basin has been degraded by dams and diversion structures, water withdrawals, farming and grazing, road construction, timber harvest activities, mining activities, and urbanization. Tributary water quality problems contribute to poor water quality where sediment and contaminants from these tributaries settle in mainstem reaches and the estuary. Temperature alterations also affect salmonid metabolism, growth rate, and disease resistance, as well as the timing of adult migrations, fry emergence, and smoltification. Many factors can cause high stream temperatures, but they are primarily related to land-use practices rather than point-source discharges. Loss of wetlands and increases in groundwater withdrawals have contributed to lower base-stream flows, which in turn contribute to temperature increases. Channel widening and land use practices that create shallower streams also cause temperature increases.

Pollutants also degrade water quality. Salmon require clean gravel for successful spawning, egg incubation, and emergence of fry. Fine sediments clog the spaces between gravel and restrict the flow of oxygen-rich water to the incubating eggs. Excess nutrients, low levels of dissolved oxygen, heavy metals, and changes in pH also directly affect the water quality for salmon and steelhead.

Water quantity problems are also a significant cause of habitat degradation and reduced fish production. Withdrawing water for irrigation, urban, and other uses can increase temperatures, smolt travel time, and sedimentation. Return water from irrigated fields can introduce nutrients and pesticides into streams and rivers. On a larger landscape scale, human activities have affected the timing and amount of peak water runoff from rain and snowmelt. Many riparian areas, flood plains, and wetlands that once stored water during periods of high runoff have been developed. Urbanization paves over or compacts soil and increases the amount and pattern of runoff reaching rivers and streams.

Based on the best available information regarding the current status of the listed species range-wide, the population status, trends, genetics, and the poor environmental baseline conditions within the action areas, NMFS concludes that the biological requirements of these species are not currently being met. Degraded habitat resulting from agricultural practices, forestry practices, road building, and residential construction, indicate that many aquatic habitat indicators are not properly functioning within the Columbia River Basin. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of these species.

## 1.5. Analysis of Effects

### 1.5.1. Effects of Proposed Action

<u>In-water structures</u>
The mainstem Columbia and John Day Rivers serve as an important migration route for numerous species of anadromous fish, whether they key on shallow, nearshore habitats like fall chinook, or mid-river like sockeye salmon and steelhead juveniles (Dawley *et al.* 1986). The addition of boat docks and their accompanying in-water structures and upland facilities may affect anadromous fish through creation of a predatory fish and avian habitat; increased wave generation and prop wash (sediment suspension) which may result in more disturbance in shallow-water habitat; modification of riparian areas; or through changes in water quality from run-off.

Juvenile salmonid species such as spring chinook, sockeye, coho salmon and up-river steelhead usually move downriver relatively quickly and in the main channel. This aids in predator avoidance (Gray and Rondorf 1986). Fall and summer chinook salmon are found in nearshore, littoral habitats and are particularly vulnerable to predation (Gray and Rondorf 1986). Juvenile salmonids (chinook and coho salmon, and cutthroat trout) utilize backwater areas during their out migration (Parente and Smith 1981). In addition, the presence of predators may force smaller prey fish species into less desirable habitats, disrupting foraging behavior, resulting in less growth (Dunsmoor *et al.* 1991).

When a salmon stock suffers from low abundance, predation can contribute significantly to its extinction (Larkin 1979). Further, providing temporary respite from predation may contribute to increasing Pacific salmon (Larkin 1979). A substantial reduction in predators will generally result in an increase in prey (in this case, salmonid) abundance (Campbell 1979). Gray and Rondorf (1986), in evaluating predation in the Columbia River Basin, state that "The most effective management program may be to reduce the susceptibility of juvenile salmonids to predation by providing maximum protection during their downstream migration." Campbell (1979), discussing management of large rivers and predator-prey relations, advocates that a "do nothing" approach (as opposed to predator manipulation) coupled with a strong habitat protectionist policy, should receive serious consideration.

Predator species such as northern pikeminnow (*Ptychocheilus oregonensis*), and introduced predators such as largemouth bass, smallmouth bass, black crappie, white crappie and, potentially, walleye (*Stizostedion vitreum*) (Ward *et al.* 1994, Poe *et al.* 1991, Beamesderfer and Rieman 1991, Rieman and Beamesderfer 1991, Petersen *et al.* 1990, Pflug and Pauley 1984, and Collis *et al.* 1995) may utilize habitat created by over-water structures (Ward and Nigro 1992, Pflug and Pauley 1984), such as piers, float houses, floats and docks (Phillips 1990, Kahler *et al.* 2000).

Largemouth bass are considered the principal warmwater predatory fish in the United States (Heidinger 1975, McCammon and von Geldern 1979). Habitat types utilized by largemouth bass include vegetated areas, open water areas, and areas with cover such as docks and submerged trees (Mesing and Wicker 1986, Stuber *et al.* 1982, Miller 1975). Miller (1975) indicates that largemouth bass are primarily lake, pond and quiet water residents. Funk (1975) states that where both smallmouth and largemouth bass co-occur, largemouth bass usually inhabit quiet, weedy, backwater areas. Although they can be found in open water areas, largemouth bass are more commonly found along the shoreline (Heidinger 1975, McCammon and von Geldern 1979). During the summer, bass prefer pilings, rock formations, areas beneath moored boats, and alongside docks. Colle *et al.* (1989) found that, in lakes lacking vegetation, largemouth bass distinctly preferred habitat associated with piers, a situation analogous to the Columbia River. Wanjala *et al.* (1986) found that adult largemouth bass in a lake were generally found near submerged structures suitable for ambush feeding.

Bevelhimer (1996), in studies on smallmouth bass, indicates that ambush cover and low light intensities create a predation advantage for predators and can also increase foraging efficiency. Kahler *et al.* (2000) indicate that both smallmouth and largemouth bass utilize docks and piles. Coble (1975), Miller (1975) and Edwards *et al.* (1983) indicate that smallmouth bass prefer streams with moderate currents, gravel or rubble substrate and rocks or logs creating slack water, whereas largemouth bass prefer streams with sluggish current, silt and mud substrate, and aquatic vegetation. Stuber *et al.* (1982) indicate that adult largemouth bass are most abundant in areas of low current velocities and areas with velocities greater than 20 cm/sec are unsuitable. The slower currents found in areas of the Columbia River make them conducive to largemouth bass.

Black crappie and white crappie are known to prey on juvenile salmonids (Ward *et al.* 1991). Ward *et al.* (1991), in their studies of crappies within the Willamette River, found that the highest density of crappies at their sampling sites occurred at a wharf supported by closely-spaced pilings. They further indicated that suitable habitat for crappies includes pilings and riprap areas. Walters *et al.* (1991) also found that crappies were attracted to in-water structures and recommended placement of structures as attractants in lake environs.

Ward (1992) found that stomachs of northern pikeminnow in developed areas of Portland Harbor contained 30% more salmonids than those in undeveloped areas, although undeveloped areas contained more northern pikeminnow. Takata and Ward (2000) in studies of the effects of developments on predators in above Bonneville Dam found that small structures did not appear to have increased predation on juvenile salmonids.

There are four major predatory strategies utilized by piscivorous fish: Run down prey; ambush prey; habituate prey to a non-aggressive illusion; or stalk prey (Hobson 1979). Ambush predation is probably the most common strategy; predators lie-in-wait, then dart out at the prey in an explosive rush (Gerking 1994). Predators may use sheltered areas that provide slack water to ambush prey fish in faster currents (Bell 1991).

Light plays an important role in defense from predation. Prey species are better able to see predators under high light intensity, thus providing the prey species with an advantage (Hobson 1979, Helfman 1981). Petersen and Gadomski (1994) found that predator success was higher at lower light intensities. Prey fish lose their ability to school at low light intensities, making them vulnerable to predation (Petersen and Gadomski 1994). Howick and O'Brien (1983) found that in high light intensities, prey species (bluegill) can locate largemouth bass before they are seen by the bass. However, in low light intensities, the bass can locate the prey before they are seen. Walters *et al.* (1991) indicate that high light intensities may result in increased use of shade-producing structures. Helfman (1981) found that shade, in conjunction with water clarity, sunlight and vision, is a factor in attraction of temperate lake fishes to overhead structure.

An effect of over-water structures is the creation of a light/dark interface that allows ambush predators to remain in a darkened area (barely visible to prey) and watch for prey to swim by against a bright background (high visibility) (Helfman 1981). Prey species moving around the structure are unable to see predators in the dark area under the structure and are more susceptible to predation. The incorporation of grating or light tubes into the docks proposed by the COE allows for more light penetration and diffuses the light/dark interface. This will minimize the susceptibility of juvenile salmonids to piscivorous predation resulting from these projects.

Shading from docks, piers and moored boats may also reduce juvenile salmonid prey organism abundance and the complexity of the habitat by reducing aquatic vegetation and phytoplankton abundance (Kahler *et al.* 2000). Glasby (1999) found that epibiotic assemblages on pier pilings at marinas subject to shading were markedly different than in surrounding areas.

In addition to piscivorous predation, in-water structures (tops of pilings) also provide perching platforms for avian predators such as double-crested cormorants (*Phalacrocorax auritis*), from which they can launch feeding forays or dry plumage. High energy demands associated with flying and swimming create a need for voracious predation by cormorants on live prey (Ainley 1984). Cormorants are underwater pursuit swimmers (Harrison 1983) that typically feed on mid-water schooling fish (Ainley 1984), but they are known to be highly opportunistic feeders (Derby and Lovvorn 1997, Blackwell *et al.* 1997, Duffy 1995, Schaeffer 1992). Double-crested cormorants are known to fish cooperatively in shallow water areas, herding fish before them (Ainley 1984). Krohn *et al.* (1995) indicate that cormorants can reduce fish populations in forage areas, thus possibly affecting adult returns as a result of smolt consumption. Because their plumage becomes wet when diving, cormorants spend considerable time drying out feathers (Harrison 1983) on pilings and other structures near feeding grounds (Harrison 1984). Placement of piles to support the dock structures will potentially provide for some usage by cormorants. The proposed placement of anti-perching devices on the top of the pilings would preclude their use by any potential avian predators.

Riparian Areas

Riparian habitats are one of the most ecologically productive and diverse terrestrial environments (Kondolf *et al.* 1996, Naiman *et al.* 1993). Riparian vegetation influences channel processes through stabilizing bank lines, providing large wood (LW), providing terrestrial food sources rather than autochthonous food production, and regulating light and temperature regimes (Kondolf *et al.* 1996, Naiman *et al.* 1993). Vegetation in riparian areas provides soil stability, shade, LW supply, and food for fish and their prey. In addition, riparian vegetation and LW can provide low velocity shelter habitat for fish during periods of flooding, while instream LW provides similar habitat at all flow levels, as well as shelter from predators, habitat for prey species, and the sediment storage and channel stability attributes described above (Spence *et al.* 1996).

The manipulation of vegetation and LW associated with construction in riparian areas and instream channels can change the characteristics of the riparian areas in both the short and long term in ways which would tend to adversely affect fish. Short-term effects on vegetation include: Outright destruction or removal of vegetation and LW, as well as lesser disturbances such as trampling; shallow or temporary burial by stockpiled material; temporary displacement of LW; and trimming, mowing, and scraping of vegetation. Long-term effects include permanent, or near-permanent, displacement of habitat for vegetation through paving, armoring, or maintenance of utility corridors. Such long-term effects on vegetation would also tend to cause a long-term reduction in riparian and instream LW.

The placement of a boat ramp will generally result in permanent loss of some riparian habitat, however, the area of that loss is usually small. Revegetation of any riparian areas disturbed by construction activities will maintain or improve habitat conditions for salmonids over time, by potentially increasing plant densities in degraded areas or changing plant species at the site to those that are more beneficial to aquatic species. Upland facilities such as buildings and parking areas will also result in losses of critical habitat if placed close to the waters edge. In addition, activities associated with dock and upland facilities construction will also result in impacts to the riparian area.

The proposed sites are located along the Columbia River in the rain shadow created by the Cascade Range. Consequently, the riparian zone in these areas is very narrow and dominated by shrubs and small trees adapted to minimal rainfall. The placement of boat ramps and parking lots at the proposed sites will result in the minimal loss of riparian vegetation and will be offset by the proposed plantings.

Water Quality

Water quality may be affected by runoff from associated parking lots. Fuel, lubricants, etc., could injure or kill aquatic organisms. Parking lots have the potential to indefinitely transmit contaminants to waterbodies, if a hydrologic connection (e.g. ditch) exists. Petroleum-based contaminants (such as fuel, oil, and some hydraulic fluids) contain polycyclic aromatic hydrocarbons (PAHs) which can cause acute toxicity to salmonids at high levels of exposure and can also cause chronic lethal as well as acute and chronic sublethal effects to aquatic organisms (Neff 1985). Herbicides used to clear vegetation from surrounding areas may enter water bodies. Exposure to herbicides can have lethal and sublethal effects on salmonids, aquatic invertebrates, aquatic vegetation, as well as target and non-target riparian vegetation (Spence *et al.* 1996). Boating also affects water quality through the input of PAHs from two cycle outboard motors, turbulence created by propellers and wave erosion along the shoreline (Mosisch and Arthington 1998). The proposed new parking lots will be constructed with gravel which will allow for infiltration and minimize contaminant transmission to any receiving waters.

Treated wood used for pilings and docks releases contaminants into both fresh and saltwater environs. PAHs are commonly released from creosote-treated wood. PAHs may cause a variety of deleterious effects (cancer, reproductive anomalies, immune dysfunction, and growth and development impairment) to exposed fish (Johnson 2000, Johnson *et al.* 1999, Stehr *et al.* 2000). Wood also is commonly treated with other chemicals such as ammoniacal copper zinc arsenate (ACZA) and chromated copper arsenate (CCA) (Poston 2001). Direct exposure to the contaminants occurs as salmon migrate past installations with treated wood or when the area is used for rearing, and indirect exposure occurs through ingestion of other organisms that have been exposed (Posten 2001). Leaching rates of contaminants from treated wood is highly variable and dependent on many factors (Posten 2001). Consequently, Posten (2001) recommends that use of treated wood needs to be evaluated on its own merits for each individual situation, and subject to an evaluation of the pertinent conditions at each site. The COE proposes to use steel pilings and concrete floats for dock construction.

Pile Driving

Pile driving could cause temporary, intense underwater sound events. The extent to which the sound would disturb fishes would be related to the distance between the sound source and affected fish, and also by the duration and intensity of the pile driving operation.

The sound events caused by pile driving would likely elicit an evasive response from salmonids near the sound source. This evasive response could in turn result in juvenile salmonids abandoning predator refugia or local foraging areas, temporarily increasing risks of predation or diminishing foraging opportunities.

In the marine environment, Feist *et al.* (1992) have demonstrated that pile driving has tangible effects on salmonids. Among their conclusions: Salmonids may be affected by pile driving sound within a radius of 600 meters of the sound source; and pile driving operations may affect the general behavior and distribution of salmonids. Carlson *et al.* (2001) found that salmonids were unaffected by pile driving activities at pile dike fields maintained by the COE as part of the Columbia River Navigation Channel. Carrasquero (2001), in a literature review of over-water structures in freshwater, found that pile driving noise is unlikely to significantly affect the migratory behavior of salmonids.

For the docks proposed in this Opinion, pile driving sound is expected to have a minor impact on the listed fish. Specifically, the duration of piling installation and the probability of take will be minimized by installing them during the time that there are a minimal number of ESA-listed fish present in the action area.

<u>Boating Activities</u>
Residential docks and especially marinas are likely to have high levels of boating activity in their immediate vicinity, particularly adjacent to floats. Specifically, docks may serve as a mooring area for boats or a staging platform for recreational boating activities. There are several impacts boating activity may have on listed salmonids and aquatic habitat. Directly, engine noise, prop movement, and the physical presence of a boat hull may disrupt or displace nearby fishes (Mueller 1980, Warrington 1999a).

Boat traffic may also cause: (1) Increased turbidity in shallow waters, (2) uprooting of aquatic macrophytes in shallow waters, or (3) aquatic pollution (through exhaust, fuel spills, or release of petroleum lubricants) (Warrington 1999b). These boating impacts indirectly affect listed fish in a number of ways, for instance, turbidity may injure or stress affected fishes (see above), and the loss of aquatic macrophytes may expose salmonids to predation, decrease littoral productivity, or alter local species assemblages and trophic interactions. Despite a general lack of data specifically for salmonids, pollution from boats may cause short-term injury, physiological stress, decreased reproductive success, cancer, or death for fishes in general. Further, pollution may also impact fishes by impacts to potential prey species or aquatic vegetation. Since these sites are for the exclusive use of Tribal fishers, extensive boating activity is not expected.

### 1.5.2 Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for the ESA-listed species in this Opinion consists of all waterways below naturally-impassable barriers including the project areas. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter. Effects on critical habitat from the proposed action are included in the effects description above.

### 1.5.3 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation."

Non-federal activities within the action areas are expected to increase with an increase in human population in the Columbia River Basin. Thus NMFS assumes that future private and state actions will continue within the action areas, but at increasingly higher levels as population density increases. NMFS assumes that future Federal projects in the Columbia River will be reviewed through separate section 7 consultation processes and therefore are not considered cumulative effects.

## 1.6 Conclusion

NMFS has determined that, when the effects of the COE's proposed actions (construction of the six fishing access sites) are added to the environmental baselines and cumulative effects occurring in the action areas, they are not likely to jeopardize the continued existence of the Snake River Basin steelhead, Snake River spring/summer chinook salmon, Snake River sockeye salmon, Snake River fall chinook salmon, Upper Columbia River spring chinook salmon, Middle Columbia River steelhead and Upper Columbia River steelhead, or cause adverse modification or destruction of designated critical habitat.

This conclusion was based on the following considerations: (1) All in-water work and other construction activities within the ordinary high water will take place according to Oregon or Washington guidelines for timing of in-water work to protect fish and wildlife resources; (2) all docks and pilings will be constructed in a manner to dissuade both avian and fish predators; (3) streambanks and riparian areas disturbed by new construction will be planted with vegetation; and (4) water quality and fish behavior will not be unduly impacted by boating traffic due to the expected minimal use of the sites and treatment of run off from parking lots. Therefore, the proposed action is not expected to prevent or delay the achievement of properly functioning habitat conditions in the action area.

### 1.7 Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: (1) The amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action that may affect ESA-listed species or critical habitats in a manner or to an extent not considered in this Opinion, (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitats not considered in this Opinion, or 4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of authorized incidental take is exceeded, any operations causing such take must cease pending reinitiation of consultation.

## 2. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring ESA-listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of an ESA-listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

### 2.1 Amount and Extent of the Take

NMFS anticipates that the actions covered by this Opinion are reasonably certain to result in incidental take of Snake River Basin steelhead, Snake River spring/summer chinook salmon, Snake River sockeye salmon, Snake River fall chinook salmon, Upper Columbia River spring chinook salmon, Middle Columbia River steelhead and Upper Columbia River steelhead because of minimal predator usage of the dock structures post-construction, slight increases in boat usage at the existing sites which may result in detrimental effects, and the slight possibility of juvenile presence in the vicinity of the project site during in-water work. Take resulting from the effects of the action covered by this Opinion is largely unquantifiable in the short term, and not expected to be measureable in the long term. The extent of take is limited to the action areas.

## 2.2 Reasonable and Prudent Measures

The measures described below are non-discretionary. They must be implemented so that they become binding conditions in order for the exemption in section 7(a)(2) to apply. The COE has the continuing duty to regulate the activities covered in this incidental take statement. If the COE fails to adhere to the terms and conditions of the incidental take statement through enforceable terms added to the document authorizing this action, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

NMFS believes that the following reasonable and prudent measures, along with conservation measures described by the COE, are necessary and appropriate to minimize the likelihood of take of ESA-listed fish resulting from implementation of this Opinion. These reasonable and prudent measures would also minimize adverse effects to designated critical habitat.

1. Minimize the likelihood of incidental take from boat docks and ramps by applying methods to avoid or minimize predator habitat and disturbance to riparian and aquatic systems.

2. Minimize the likelihood of incidental take from activities involving temporary access roads, use of heavy equipment, earthwork, site restoration, or that may otherwise involve in-water work or affect fish passage by applying methods to avoid or minimize disturbance to riparian and aquatic systems.

3. Minimize the likelihood of incidental take from erosion control activities requiring streambank and shoreline protection by using an ecological approach to bank protection and the best available bioengineering technology.

4. Ensure effectiveness of implementation of the reasonable and prudent measures through monitoring and evaluation both during and following construction.

## 2.3 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement the Reasonable and Prudent Measure #1 (minimize predator habitat and disturbance to riparian and aquatic systems), the COE shall ensure that in addition to their proposed conditions:
    a. Pilings shall be limited in size and quantity to the minimum necessary to support dock structures.
    b. All pilings and navigational aids, such as moorings, and channel markers, will be fitted with devices to prevent perching by piscivorus bird species.
    c. All parking lots, picnic areas, toilets, trails and other non-water dependent facilities will be constructed such that all runoff from parking lots and other

impervious surfaces will be collected and treated to remove contaminants prior to return to any receiving waters. All runoff will meet state water quality standards for temperature, turbidity, and other state water quality criteria before it reaches a receiving water.

d. All stormwater runoff must be managed to ensure that it will not result in a change in the existing hydraulic conditions or an increase of pollutants to the receiving water.

2. To Implement Reasonable and Prudent Measure #2 (in-water work), the COE shall ensure that:
   a. The Contractor will develop and implement a site-specific spill prevention, containment, and control plan (SPCCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the COE to ensure compliance with this SPCCP. The plan must contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.
      i. Practices to prevent erosion and sedimentation associated with access roads, stream crossings, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations and staging areas.
      ii. Practices to confine, remove and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities.
      iii. A description of any hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.
      iv. A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.
   b. All discharge water created by construction (e.g., concrete washout, pumping for work area isolation, vehicle wash water) will be treated as follows:
      i. Facilities must be designed, built and maintained to collect and treat all construction discharge water using the best available technology applicable to site conditions. The treatment must remove debris, nutrients, sediment, petroleum hydrocarbons, metals and other pollutants likely to be present.
      ii. If construction discharge water is released using an outfall or diffuser port, velocities must not exceed 4-feet per second.
      iii. No construction discharge water may be released within 300 feet upstream of spawning areas or areas with marine submerged vegetation.

c. Use of treated wood[3] for any structure that may contact flowing water or that will be placed over water is not authorized, except for pilings installed following NMFS' guidelines.[4]

d. Material removed during excavation will only be placed in locations where it cannot enter streams, wetlands, or other water bodies.

e. During excavation, native streambed materials will be stockpiled above the bankfull elevation for later use.

f. The following erosion and pollution control materials shall be onsite:
   i. A supply of erosion control materials (e.g., silt fence and straw bales) is on hand to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds.
   ii. An oil absorbing, floating boom is available on-site during all phases of construction. The boom must be of sufficient length to span the wetted channel.
   iii. All temporary erosion controls (e.g., straw bales, silt fences) are in-place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in-place at all times during the contract, and will remain and be maintained until such time that permanent erosion control measures are effective.

g. All exposed or disturbed areas will be stabilized to prevent erosion.
   i. Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas will be stabilized by native seeding[5], mulching, and placement of erosion control blankets and mats, if applicable, but within 14 days of exposure.
   ii. All other areas will be stabilized quickly as reasonable, but within 14 days of exposure.
   iii. Seeding outside of the growing season will not be considered adequate nor permanent stabilization.

h. All erosion control devices will be inspected during construction to ensure that they are working adequately.

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[3] "Treated wood" means lumber, pilings, and other wood products preserved with alkaline copper quaternary (ACQ), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), copper naphthenate, chromated copper arsenate (CCA), pentachlorophenol, or creosote.

[4] Letter from Steve Morris, National Marine Fisheries Service, to W.B. Paynter, Portland District, U.S. Army Corps of Engineers (December 9, 1998) (transmitting a document titled *Position Document for the Use of Treated Wood in Areas within Oregon Occupied by Endangered Species Act Proposed and Listed Anadromous Fish Species, National Marine Fisheries Service, December 1998*).

[5] By Executive Order 13112 (February 3, 1999), Federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is located, shall be used.

i. Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites.
ii. If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.
iii. Erosion control measures will be judged ineffective when turbidity plumes are evident in waters occupied by listed salmonids during any part of the year.

i. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground. Catch basins will be maintained so that sediment does not accumulate within traps or sumps.

j. Sediment-laden water created by construction activity will be filtered before it enters a stream or other water body. Silt fences or other detention methods will be installed as close as reasonable to outlets to reduce the amount of sediment entering aquatic systems.

k. Any hazardous materials spill will be reported to NMFS.
i. In the event of a hazardous materials or petrochemical spill, immediate action shall be taken to recovery toxic materials from further impacting aquatic or riparian resources.
ii. In the event of a hazardous materials or petrochemical spill, a detailed description of the quantity, type, source, reason for the spill, and actions taken to recover materials will be documented. The documentation should include photographs.

l. Refueling and hazardous materials
i. All staging and refueling shall occur at least 150 feet from the ordinary high-water mark, except as stated below.
ii. No auxiliary fuel tanks will be stored within 150 feet of the ordinary high-water mark.

m. Boundaries of the clearing limits associated with site access and construction will be flagged to prevent ground disturbance of riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.

n. Boulders, rock, woody materials and other natural construction materials used for the project must be obtained from outside of the riparian area.

o. Temporary access roads will be designed as follows:
i. Temporary access roads will not cross streams.
ii. Alteration of existing native vegetation will be minimized in the construction, use, and maintenance of temporary access roads.
iii. Existing roadways or travel paths will be used whenever reasonable.
iv. Vehicles and machinery must cross riparian areas at right angles to the main channel wherever reasonable.
v. Temporary roads within 150 feet of streams will avoid, minimize and mitigate soil disturbance and compaction by clearing vegetation to ground level and placing clean gravel over geotextile fabric.

vi. All cleared areas will be revegetated once construction is completed as described below.

p. All project operations, except efforts to minimize storm or high flow erosion, will cease under high flow conditions that may result in inundation of the immediate work area.

3. To implement Reasonable and Prudent Measure #3 (erosion control), the COE shall ensure that:

a. All damaged areas will be restored to pre-work conditions. Damaged streambanks must be restored to a natural slope, pattern and profile suitable for establishment of permanent woody vegetation.

b. All exposed soil surfaces, including construction access roads and associated staging areas, will be stabilized at finished grade with mulch, native herbaceous seeding, and native woody vegetation. Areas requiring revegetation must be replanted between October 15 and April 15 with a diverse assemblage of species that are native to the project area or region, including grasses, forbs, shrubs and trees.

c. No herbicide application will occur within 300 feet of any stream channel as part of this action. Mechanical removal of undesired vegetation and root nodes is permitted.

d. No surface application of fertilizer will be used within 50 feet of any stream channel as part of this permitted action.

e. Fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

f. Plantings will achieve 100 percent survival after 1 year, and 80 percent survival or 80 percent ground cover after 5 years (including both plantings and natural recruitment). If the success standard has not been achieved after 5 years, the COE will submit an alternative plan to NMFS. The alternative plan will address temporal loss of function for the 5 years.

4. To implement Reasonable and Prudent Measure #4 (monitoring and evaluation), the COE shall ensure that:

a. Within 90 days of completing the construction projects and within 90 days of completing the mitigation projects, the COE will submit a monitoring report to NMFS describing the success meeting their permit conditions. This report will consist of the following information:

i. Project identification

(1) Project name and project location, including any compensatory mitigation site(s), by 5$^{th}$ field HUC and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.

(2) Starting and ending dates of work completed for this project;

(3) Monitoring reports shall be submitted to:

National Marine Fisheries Service
Oregon Habitat Branch
Attn: OSB1998-0008-FEC
525 NE Oregon Street, Suite 500
Portland, Oregon 97232-2778

ii. A report analyzing the impacts of the stormwater generated by the new impervious surface and how it impacts the hydrology and water quality downstream of the project site.

iii. Copies of pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.

iv. Documentation of the following conditions: Finished grade slopes and elevations; log and rock structure elevations, orientation, and anchoring, if any; Planting composition and density; a plan to inspect and, if necessary, replace failed planting and structures for five years; photographic documentation of environmental conditions at the project site and compensatory mitigation site(s) (if any) before, during and after project completion.

(1). Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction.

(2). Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.

(3). Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

v. Additional project-specific data, as appropriate for individual projects.

(1). Dates work cessation was required due to high flows.

(2) Compliance with NMFS' fish screen criteria (if work resulted in dewatering).

(3) Finished grade slopes and elevations;log and rock structure elevations, orientation, and anchoring (if any); and planting composition and density.

# 3. MAGNUSON - STEVENS ACT

## 3.1 Background

The objective of the essential fish habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

## 3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires the inclusion of EFH descriptions in federal fishery management plans. In addition, the MSA requires federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of essential fish habitat: ‘Waters’ include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; ‘substrate’ includes sediment, hard bottom, structures underlying the waters, and associated biological communities; ‘necessary’ means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any federal or state activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NMFS provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

### 3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*)(PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

### 3.4 Proposed Actions

The proposed actions are detailed in Section 1.2, Proposed Action. These areas have been designated as EFH for various life stages of coho and chinook salmon.

### 3.5 Effects of Proposed Action

As described in detail in Section 1.5, Analysis of Effects, the proposed activities may result in detrimental short-term adverse effects to a variety of habitat parameters. These impacts include: Disturbance of the beds and banks of the river, removal of riparian vegetation and the potential for pollutants to enter the water.

### 3.6 Conclusion

After reviewing the current status of the listed species, the environmental baseline for the action areas, the effects of the proposed actions, and cumulative effects, NMFS has determined that the actions, as proposed, may adversely affect the EFH for chinook and coho salmon.

### 3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any federal or state agency action that would adversely affect EFH. The conservation measures proposed for the project by the COE and all of the Reasonable and Prudent Measures and the Terms and Conditions contained in Sections 2.2 and 2.3 of this biological opinion are applicable to salmon EFH. Therefore, NMFS incorporates each of those measures here as EFH conservation recommendations.

### 3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the federal agency to provide a written response to NMFS after receiving EFH conservation recommendations within 90 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NMFS, the agency must explain its reasons for not following the recommendation.

### 3.9 Supplemental Consultation

The COE must reinitiate EFH consultation with NMFS if either the action is substantially revised or new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920).

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Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.


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